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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/840,767

04/23/2001

J. Graham Mobley

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SCIENTIFIC-ATLANTA, INC.
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER

BROWN, RUEBEN M

ART UNIT

PAPER NUMBER

2623

NOTIFICATION DATE

DELIVERY MODE

06/27/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

Office Action Summary	Application No. 09/840,767	Applicant(s) MOBLEY ET AL.	
	Examiner REUBEN M. BROWN	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/13/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 3/13/2008 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the foreign reference, JP 362066745, is in a foreign language, without an explanation. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 6 & 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

Art Unit: 2623

described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 is presently amended to recite the limitation, '*A communication system for transmitting forward and reverse cable television signals*'. It is pointed out that the specification does not provide support for the amended claimed '*reverse **cable television** signals*'. Instead, page 3, lines 34-37 thru page 4, lines 1-5, discloses that, "In a conventional "digital" network, the digital signals carry information relating to telephony, high-speed data, and LAN emulation...In a conventional "analog" network, the analog signals, though they are typically digitized carry information relating to broadcast video and VOD...The reverse communications network 300 shown in Fig. 3 can be a combination of both of these networks", emphasis added. However, it is pointed out that the specification merely discloses that the analog signals carry information relating to broadcast video and VOD, which is broad enough to read on a customer's upstream request for such services. It is not disclosed that the reverse signals are the cable TV signals themselves. Therefore, the cited portion of the specification does not support that the '*reverse signals*' are '*cable television signals*', as claim 1 has been amended to recite.

Additionally, regarding claims 1, 6 & 16, the phrase "optical nodes, reverse receiver, or any other device, or subscriber equipment, transmitters or digital network...**performs no** multiplexing" also fails to comply with the written description. See MPEP § 2173.05(i).

Art Unit: 2623

In particular, applicant's invention on page 3, lines 29-30 merely discloses, "The output of each digital transmitter 305 is transmitted upstream through a digital network 310. The digital network may contain devices such as routers and switches that process and combine the signals". However, the specification does not explicitly state that any of the other devices performs no multiplexing, as recited in the claims. MPEP 2173.05(i) states; any negative limitation or exclusionary proviso must have basis in the original disclosure.

Response to Arguments

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2623

6. Claims 1, 3, 6, 9, 12, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoarty, (U.S. Pat # 5,485,197) in view of Admitted Prior Art Fig. 3, and further in view of Dufresne, (U.S. Pat # 4,920,533) and Oakley, (U.S. Pat # 3,886,454).

Considering amended claim 1, the claimed subject matter is analyzed, as best understood, in light of the above 112 first paragraph rejections. The claimed communication system for transmitting forward & reverse CATV television signals, the communication system comprising:

‘a plurality of optical nodes including a reverse transmitter, each optical node for receiving reverse analog signals from a plurality of subscriber equipment’, is met by the combiners 47 of Hoarty, see Fig. 4; Fig. 7; Fig. 9; col. 6, lines 62-67 thru col. 7, lines 1-10; col. 8, lines 1-12.

As for the claimed, *‘converter for converting a reverse analog signals into a digitized reverse signals’*, Hoarty teaches upstream communication over a coax and then fiber optic medium, Fig. 4 & Fig. 7. However, Hoarty does not explicitly discuss an A/D converter. Nevertheless, Admitted Prior Art Fig. 3, discloses an A/D converter 308 that receives RF in, converts the RF to analog signals and transmits using Digital Transmitter 305. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Hoarty with A/D disclosed in Admitted Prior Art Fig. 3, at least for the known benefit of transmitting upstream signals from a subscriber in analog form and then converting to digital for

Art Unit: 2623

transmission over a fiber optic cable, which because of its bandwidth allows many more signals to be transmitted than could be transmitted in analog form.

'carrier-detect circuit coupled to the converter for detecting the presence of a carrier signal in the reverse analog signals', is not explicitly taught. However Dufresne, which is in the same field of endeavor of upstream transmission, discloses that the system operates such that the filter 7 will remain shut off until it senses the presence of upstream carrier signal, see col. 5, lines 25-42. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Hoarty with the feature of detecting the presence of upstream data signals, and only transmitting at that time, for the improvement of reducing the amount of ingress noise transmitted upstream, as taught by Dufresne, col. 1, lines 46-60; col. 5, lines 30-34.

As for the claimed *'delay circuit'*, Dufresne does not discuss such a feature. Nevertheless Oakley, which is in the same field of endeavor provides a teaching of a delay 84, which holds the signal until a threshold is sensed by sensor 83, and then closes the switch 82 to allow the signals to pass, see (Fig. 2B; col. 5, lines 45-67 thru col. 6, lines 1-20). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Hoarty & Dufresne with the technique of a delay circuit and switch, for the desirable advantage of avoiding losing any of the message information, prior to sensor 83 sending its control signal to switch 82, as taught by Oakley, col. 2, lines 11-67.

Art Unit: 2623

Regarding the additionally claimed feature of, *'wherein the reverse transmitter transmits the digitized reverse signals only in the presence of the detected carrier signal'* is met by the combination of combiner 47 & optical transmitter 43c, in Hoarty and Dufresne, col. 5, lines 25-42.

'reverse receiver coupled to the plurality of optical nodes via a digital network for receiving and passively combining the reverse digital optical signals from each of the plurality of optical nodes' reads on the gateway 66b of Hoarty, Fig 7; Fig. 15; col. 11, lines 55-67

As for the further claimed feature of *'the plurality of optical nodes, reverse receiver or any other device in the digital network performs no form of multiplexing on the reverse analog signals'*, Hoarty teaches that the inbound data enter the gateway 66b via line 155a from common return trunk 42c, and that the inbound data is demodulated by RF demodulators 155, see col. 11, lines 55-65.

Considering claim 3, the claimed *'the reverse receiver coupled to the digital network for receiving the combined digital optical signals and converting the digital optical signals to analog optical signals'*, is met by the combination of Admitted Prior Art Fig. 3, Digital Receiver 310 and D/A converter 315 and the combiner 47 & transmitter 43c. *'A headend that receives and process the analog RF signals'*, is also met by the headend 41 of Hoarty. The claimed *'burst-mode'* feature also reads on the operation of Hoarty & Dufresne.

Dufresne also discloses that data transmitted from the headend is in packet form that includes destination information, Fig. 3; col. 6, lines 27-37.

Considering claim 6, the claimed elements of a communication system for '*transmitting and receiving optical signals over a communications medium*', corresponds directly with subject matter mentioned above in the rejection of claim 1, and is likewise treated. For instance, the claimed '*plurality of optical transmitter*', corresponds with the '*plurality of optical nodes*', Hoarty inherently comprises a plurality of such devices.

As for the additionally claimed feature of transmitting on a '*predetermined wavelength*', it would have been obvious for one ordinary skill in the art at the time the invention was made, to modify Hoarty to transmit the upstream signal on a predetermined wavelength, at least for the desirable benefit of avoiding collision, since when a plurality of channels are predetermined, such an arrangement serves to avoid collision on the site.

Considering claim 9, Hoarty teaches that the upstream signals may be transmitted as addressed packets, col. 9, lines 58-65; col. 12, lines 1-15.

Considering claim 12, Hoarty is a hybrid fiber coax system.

Considering claim 14, the claimed A/D converter is met by the A/D converter 308 disclosed in Admitted Prior Art Fig. 3. The transmitter 43c meets the claimed, '*optical transmitter converts digitized reverse signal to provide reverse digitized optical signal*'.

Considering claim 15, it would have been obvious to operate the carrier detect of Dufresne by detecting a carrier signal at any point in the circuit.

4. Claims 4-5, 10-11 & 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoarty, Admitted Prior Art Fig. 3, Dufresne & Oakley, and further in view of LaJoie, (U.S. Pat # 5,850,218).

Considering claims 4, 10 & 13, Hoarty discloses that the headend may transmit programming in a digital and analog format, col. 7, lines 35-67; col. 10, lines 1-28; Fig. 8. However, Hoarty does not discuss the signals may be received at the headend in digital or analog formats.

It is pointed out that the claimed feature is broad enough to read on a single headend that receives both digital and analog signals. LaJoie provides a teaching of a headend that receives both analog and digital signals, (col. 2, lines 58-67; col. 10, lines 1-67 & col. 11). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify

Art Unit: 2623

Hoarty with the teachings of LaJoie, for the desirable advantage of providing a wider range of methods for upstream communication.

Regarding claim 13, the claimed subject matter reads on La Joie teaching that Reverse Data channels may occupy different sections of the RF spectrum, which contributes to collision avoidance, see col. 10, lines 64-65.

Considering claims 5 & 11, Hoarty teaches that the upstream signals may be transmitted as addressed packets, col. 9, lines 58-65; col. 12, lines 1-15.

7. Claims 16-19 & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoarty, Admitted Prior Art Fig. 3 & Dufresne.

Considering claim 16, the claimed method for conducting reverse communications in a subscriber TV system, comprising steps that correspond with subject matter mentioned above in the rejection of claim 1, are likewise analyzed.

‘receiving at an optical transmitter reverse signal from a subscriber equipment’ corresponds with the *‘optical node’*, and is met by transmitter 43c of Hoarty.

‘converting the reverse signal to a reverse digital optical signal’, is also met by the operation of transmitter 43c and Admitted Prior Art Fig. 3. As for additionally claimed, *‘only*

Art Unit: 2623

when the presence of a reverse carrier signal is detected by a carrier-detect circuit', the feature also reads on the rejection of Hoarty, in view of Dufresne, as analyzed in claim 1.

'transmitting the reverse digital optical signals upstream to a digital network' is met by the optical trunk 42c of Hoarty, Fig. 4.

'passively combining a plurality of reverse optical signals from a plurality of optical transmitters at a digital network without the use of wave division multiplexors', reads on the trunk 42c of Hoarty.

'converting at a receiver the plurality of reverse digital optical signals back to a plurality of reverse signals', reads on the operation of the RF demodulators 155 of Hoarty.

Considering claim 17, the claimed subject matter is met by the A/D converter of Admitted Prior Art Fig. 3.

Considering claim 18, both Hoarty & Dufresne disclose that data transmitted from the headend is in packet form that includes destination information.

Considering claim 19, as for the additionally claimed feature of *'transmitting on a common wavelength'*, it would have been obvious for one ordinary skill in the art at the time the

Art Unit: 2623

invention was made, to modify Hoarty to transmit the upstream signal on a common wavelength, at least for the desirable benefit of utilizing standard configured hardware.

Considering claim 22, Hoarty teaches that the upstream signals are recombined by demodulators 155.

8. Claims 20-21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoarty, Admitted Prior Art Fig. 3 & Dufresne, further in view of LaJoie.

Considering claim 20, Hoarty discloses that the headend may transmit programming in a digital and analog format, col. 7, lines 35-67; col. 10, lines 1-28; Fig. 8. However, Hoarty does not discuss that the signals may be received at the headend in digital or analog formats.

It is pointed out that the claimed feature is broad enough to read on a single headend that receives both digital and analog signals. LaJoie provides a teaching of a headend that receives both analog and digital signals, (col. 2, lines 58-67; col. 10, lines 1-67 & col. 11). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Hoarty with the teachings of LaJoie, for the desirable advantage of providing a wider range of methods for upstream communication.

Considering claim 21, Hoarty teaches that the upstream signals may be transmitted as addressed packets, col. 9, lines 58-65; col. 12, lines 1-15.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A) Fox Teaches passively combining optical signals at a wideband switching point 14.
- B) Cohen Teaches a passive optical communication network.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

www.uspto.gov

or faxed to:

(571) 273-8300, (for formal communications intended for entry)

Or:

(571) 273-7290 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F(8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chris Kelley/
Supervisory Patent Examiner, Art Unit 2623